

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/091353 A1

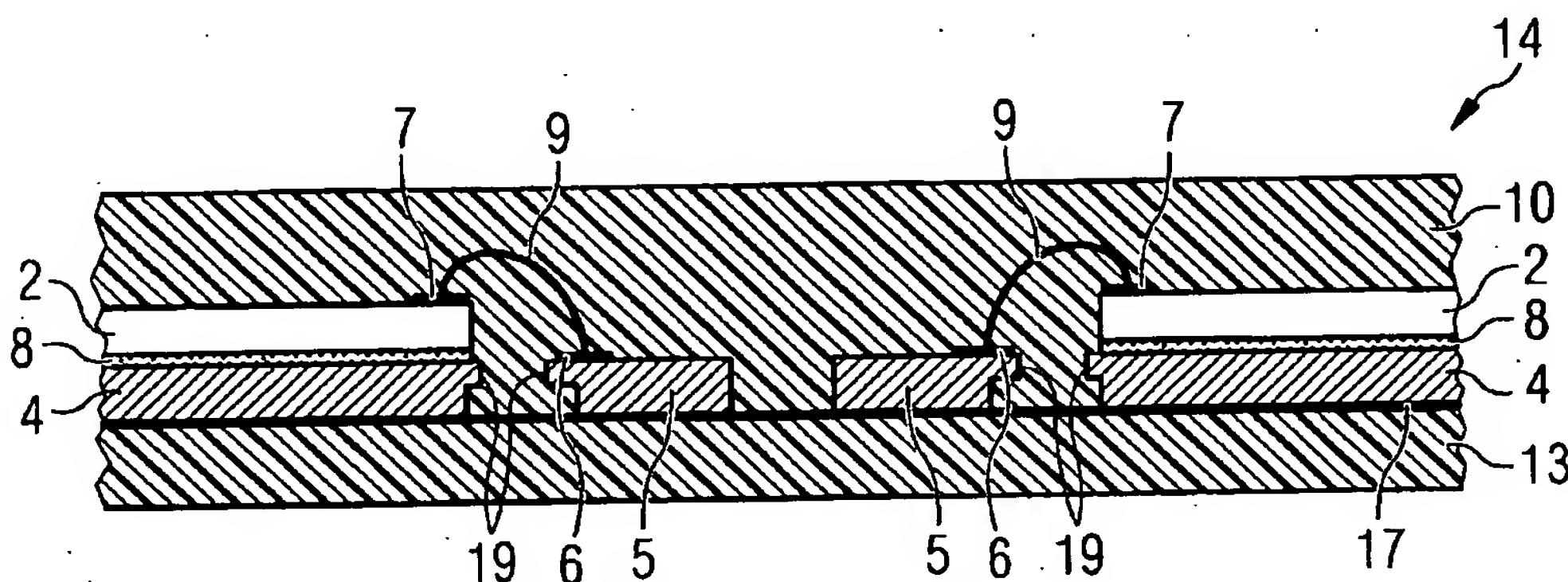
- (51) International Patent Classification⁷: H01L 21/56, 21/68
- (21) International Application Number: PCT/IB2004/000496
- (22) International Filing Date: 26 February 2004 (26.02.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (for all designated States except US): INFINION TECHNOLOGIES AG [DE/DE]; St.-martin-str. 53, 81669 München (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): YIP, Tian, Slang [SG/SG]; 279 Balestier Road #08-04, Singapur 329727 (SG). LOW, Min, Wee [SG/SG]; Blk 172 Bedok South Road #04-419, Singapur 460172 (SG).
- (74) Agent: SCHWEIGER, Martin; C/o Kanzlei Schweiger & Partner, Karl-theodor-str. 69, 80803 München (DE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A NON-LEADED SEMICONDUCTOR PACKAGE AND A METHOD TO ASSEMBLE THE SAME



WO 2005/091353 A1

(57) Abstract: A method to assemble a non-leaded semiconductor package (1) comprises the following steps. A carrier tape (13) is attached to a metal foil (12). A plurality of leadframes (3) is formed in the metal foil (12), each leadframe (3) comprising a die pad (4) laterally surrounded by a plurality of contact leads (5). A semiconductor die (2), including an active surface with a plurality of die contact pads (7), is attached to each die attach pad (4) and electrically connected to the leadframe (3) by a plurality of bond wires (9) connecting the die contact pads (7) and the lead contact areas (6) of the contact leads (5). A plurality of leadframes (3), each including a wire bonded semiconductor die, are encapsulated with mold material (10). The carrier tape (13) is removed and the non-leaded semiconductor packages (1) separated.